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Advanced Mathematical Concepts: Precalculus with Applications

Advanced Mathematical Concepts provides comprehensive coverage of all the topics covered in a full-year Precalculus course. Its unique unit organization readily allows for semester courses in Trigonometry, Discrete Mathematics, Analytic Geometry, and Algebra and Elementary Functions. Pacing and Chapter Charts for Semester Courses are conveniently located in the Teacher Wraparound Edition.

Teacher Edition

0078682282 $101.49
Advanced Mathematical Concepts: Precalculus with Applications

Essential Items

Ancillary Items

Free with Purchase items

0078203880	Answer Key Transparencies	$96.00
Free Per Teacher		
0078204275	5-Minute Check Transparencies	$48.00
Free Per Teacher		
0078204283	Teaching Transparencies	$96.00
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0078230942	Answer Key Masters	$45.99
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0078601010	Pathways to Success: Glencoe Mathematics 6-12 Scope and	$13.98
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0078610826	Answer Key Maker CD-ROM	$49.98
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0078667178	ExamView® Pro Testmaker CD-ROM	$129.99
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0078735173	TeacherWorks™ Plus CD-ROM	$189.00
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Free Per School (Ratio 1 free Per 250 Student Editions Purchased): Print Option Only (NOT AVAILABLE		
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007869440X	Teacher Classroom Resources	$189.00
Free Per Teacher		
SAM8682274	Student Edition, Comp Copy	
Free Per Student Edition Purchased (ratio 1 free Per 4 Student Editions Purchased): Print Option Only		

ISBN
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Contract Price
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Grade
9,10,11,12

TYPE
P1

Author
Gordon-Holliday, et al

Edition
1

Content
Pre-Calculus

Readability
11.2 Dale Chall

Accessibility
Nimas

Research
www.glencoe.com

Provided by the Publisher

ISBN 0078682274	Publisher - **Glencoe/McGraw-Hill**		
Advanced Mathematical Concepts: Precalculus with Applications			
Type - P1	Author - Gordon-Holliday, et al		
Copyright - 2006	Edition - 1	Readability - 11.2 Dale Chall	
Course - Pre-Calculus		Grade(s) - 9,10,11,12	
Teacher Edition ISBN if applicable 0078682282			

Provided by the Publisher

Overall Recommendation: **Recommended as BASAL**

if this box is not checked, the evaluators have chosen NOT recommend as basal

Overall Strengths, Weaknesses, Comments:

The content of the text is that of a typical Precalculus class with an increased emphasis on vocational applications which make the text more relevant.

NIMAC Accessibility	N	
Ancillary	No	
Free with Purchase	Yes	
Research	Yes	www.glencoe.com

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CRITERIA

This basal resource …

A. Encompasses KY Content Standards & Grade Level Expectations **Strong Evidence**

Text is designed to be used in an elective course outside the Program of Studies

1) Includes the 5 Big Ideas of mathematics to the following extent:	
a) Number Properties and Operations	Strong Evidence
b) Measurement	Little or No Evidence
c) Geometry	Little or No Evidence
d) Data Analysis and Probability	Strong Evidence
e) Algebraic Thinking	Strong Evidence
2) Addresses content-specific enduring understandings from the related Program of Studies standards.	Strong Evidence
3) Addresses content-specific skills and concepts from the related Program of Studies standards.	Strong Evidence

4) Content addressed is current, relevant and non-trivial	Strong Evidence
5) Provides opportunities for critical thinking/reasoning	Strong Evidence

6) Strengths, Weaknesses, Comments:

- Specific strengths-which areas/concepts are covered exceptionally well?
- Specific weaknesses-which areas/concepts would likely require supplementing?

This text covers the typical Number and Algebraic concepts of most Precalculus texts but also addresses a variety of topics in Probability and Statistics.

B. Functionality & Suitability — Strong Evidence

1) Suitability — **Strong Evidence**

- Should be suitable for use with a diverse population and is free of bias regarding race, age, ethnicity, gender, religion, social and/or geographic environment; is free of stereotyping or bias of any kind.

2) Content quality — **Strong Evidence**

- Free from factual errors
- Content is presented conceptually when possible—more than a mere collection of facts
- Content included accurately represents the knowledge base of the discipline
- Theories/scientific models contained represent a broad consensus of the scientific community
- Interconnections among mathematical topics

3) Connections to Literacy — **Strong Evidence**

- Employs a variety of reading levels and is grade/level appropriate
- Use of multiple representations-concrete, visual/spatial, graphs, charts, etc.
- Provides opportunities for summarizing, reviewing, and reinforcing vocabulary skills and concepts at multiple levels of difficulty for a variety of learning styles.
- Student text provides opportunity to integrate reading and writing
- Uses vocabulary that is age and content appropriate
- Focuses on critical vocabulary vs. extensive lists
- Identifies key vocabulary through definitions in both text and glossary
- The text is engaging and facilitates learning
- Embedded activities enhance the understanding of the text
  Note: may apply to either student or teacher editions

4) Connections to Technology — **Strong Evidence**

- Integrates technology and reflects the impact of technological advances
- Uses technology in the collection and/or manipulation of authentic data
- Embeds web links as a mathematics resource.

5) Support for Diverse Learners — **Little or No Evidence**

- Provides support for ESL students
- Provides support for differentiation of instruction in diverse classrooms

- Challenge for gifted and talented students
- Support for students with learning difficulties
  Note: may apply to either student or teacher editions

6) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards.

The only weakness of this text is the lack of support for differentiated instruction for students any kind. The students text contains a 25 page graphing calculator appendix.

C. Supports Inquiry and Skill Development — Strong Evidence

1) Promotes Inquiry, research and Application of Learning — Moderate Evidence

- Provides opportunities for inquiry and research that includes activities such as gathering information, researching resources, observing, interviewing, and evaluating information, analyzing and synthesizing data and communicating findings and conclusions, formulating authentic questions to deepen and extend mathematical reasoning.
- Requires students to use higher-level cognitive skills (analysis, synthesis, evaluation, generalizing, justifying, etc.)
- Provides activities and projects for students to deepen their knowledge and cultivate and strengthen problem-solving and decision-making skills.
- Provides opportunities for application of learned concepts.
- Uses a variety of relevant charts, graphs, diagrams, number lines, and other illustrations to invite and motivate students to engage in discussion, problem solving, and other high-order thinking skills.
- Emphasizes conceptual understandings that invite students to predict, conclude, evaluate, develop and extend ideas to support reasoning.
  Note: may apply to either teacher or student edition

2) Skill Development — Strong Evidence

- Provides opportunities to make sense of all mathematics
- Provides opportunities to recognize, create, and extend patterns.
- Provides opportunities for critical thinking and reasoning.
- Provides opportunities to justify/prove responses.
- Provides opportunities to ask deeper questions.
- Contains embedded activities (or extensions) that emphasize use of technology for problem solving
  Note: may apply to either teacher or student edition

3) Strengths, Weaknesses, Comments:

Click here to enter text.

D. Supports Best Practices of Teaching and Learning — Moderate Evidence

1) Engages Students — Moderate Evidence

- Includes content geared to the needs, interests, and abilities of all students
- Engages and motivates students using components such as real-life situations, simulations, experiments, and data gathering.
- Includes information and activities that assist students in seeing relevance of concepts (where appropriate) to their own lives and experiences
- Provides a variety of strategies, activities, and materials to enhance student learning at the appropriate learning levels
- Activities are truly congruent to the concepts addressed, not merely correlated
  Note: may apply to either teacher or student edition

2) Uses Assessment to Inform Instruction — Moderate Evidence

- Includes multiple means of assessment as an integral part of instruction
- Provides evaluation measures in the teacher edition that supports differentiated learning activities
- Embedded assessments reflect a variety of Depth of Knowledge levels
  Note: may apply to either teacher or student edition

3) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards

Teacher edition text was not available therefore assessment and differentiation strategies of the text are unknown. Student text shows extra practice problems for each section as well as alternative assessments for each each chapter.

E. Has an Organization/ Format that Supports Learning and Teaching — Moderate Evidence

1) Organizational Quality — Moderate Evidence

- Print and/or electronic materials present minimal barriers to learners, but also add encouragement for students to stretch and make further explorations.
- Presents chapters/lessons in an organized and logical sequence
- Provides clearly stated objectives for each lesson.
- Uses text features (e.g., titles, headings, subheadings, review questions, goals, objectives, space, print, type size, color) to enhance readability.
- Makes use of various forms of media (e.g., CD's, recordings, videos, cassette tapes, computer software, web-based components, interactive software, calculators, physical and virtual manipulatives) as either student or teacher resources
- Includes clear, accurate, appropriate and clearly explained illustrations and/or graphics that reinforce content standards.
- Incorporates a glossary, footnotes, recordings, pictures, and/or tests that aid pupils and teachers in using the book effectively
- Uses grade-appropriate type size

- Included media are durable, easy to use and have technical merit
- Construction appears to be durable and able to withstand normal use

2) Essential Components (beyond student and teacher text) Little or No Evidence

- Items identified as essential components support the learning goals and concept coverage of the basal

3) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards.

A packaging list indicated several technology based resources for students and teachers, however, these were not made available for review.

F. Has available Ancillary/ Gratis Materials

Note: The decision whether to recommend or not recommend this resource as a basal should not be influenced by Section F

Little or No Evidence

1) Ancillary/Gratis Materials

- Coordinates teacher resources easily with student material (e.g., accompaniments included, student pages shown, instructional technology indicated).
- Are well-organized and easy to use
- Provide substantive learning opportunities and are congruent with student learning goals
- Provide opportunities for high-level thinking, assessment, and/or problem solving
- Provides opportunities for intervention.

2) Strengths, Weaknesses, Comments:

- Reviewers may provide page numbers to point out specific strong examples for individual evaluation standards.

None available for review.